

Work Order ID 148462

June 30, 2016 2:50:03 PM

148462

Page 1

Item ID: D2199-23

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Strut

Start Date: 7/8/2016 Start Qty: 3.00

3

Cust Item ID:

Required Date: 7/15/2016 Req'd Qty: 3.00

3

Customer:

Reference:

Approvals: Process Plan: 54 Date: 7/4/16

Tooling:

Date:

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
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D2199	F
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100

0.00

100

NC BRAKE

Brake NC

Memo

0.38

Brake NC

Punch per Dwg. D2199 and Spec Control Dwg D2638

Debur

DAS
30
9-893

JUL 07 2016

120

QC5- Inspect part completeness to step on W/O

0.00

120

QC

Memo

0.01

Quality Control

DAS
38
9-893

JUL 08 2016

130

White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel

0.00

130

Powdercoat

Memo

0.07

Powder Coating

START TIME: 11:15OVEN TEMPERATURE: 1400°FINISH TIME: 11:45M 1346313 0 16-07-11 233

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

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Page 2

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N900040100

Setup Start *NS1*

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Item Name: Strut

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Start Date: 7/8/2016 Start Qty: 3.00 *3*

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC3- Inspect Part Finish	0.00				(3)			DAS 38 9-89
140									
QC	Memo	0.01							
Quality Control									JUL 11 2016
150	Identify as per dwg & Stock Location: <u>385A</u>	0.00				3			
150									
Packaging	Memo	0.01							DAS 6 9-89
Packaging									JUL 12 2016
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.05							
Quality Control									16/7/12 DAS 21 9-89 JUL 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

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Page 1

Work Order ID: 148462

148462

Parent Item: D2199-23

D2199-23

Parent Item Name: Strut

Start Date: 7/8/2016

Required Date: 7/15/2016

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP: D02.06.10Rem polish & add finishNG/CC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.750W.049		Purchased	No				f	183.9928		6.947368			
M304TR0 750W 049											DAS 30	9102 7 0 706	
304 RD Tube .750 x .049W											9-89		

Location

Loc Qty

Loc Code

GA002

178.4200852

M132270

0.00001

M133131

0.0007242

M133509

14.210211

M133700

2.794323

M133914

5.98516

M134138

1.1364496

M134212

8.5144235

M134306

10.6695789

M134528

3.7518392

M134604

49.23105

M134824

29.650527

M134993

12.4757888

M135093

40

MAT

5.5727347

M133400

5.5727347

DQA: _____ Date: _____

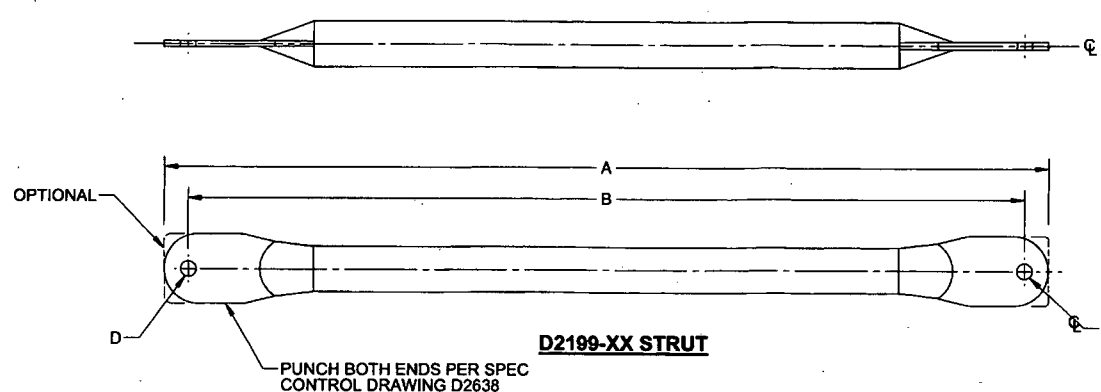


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							



PART NUMBER	A	B	C	D	WEIGHT (LBS)	FINISH
D2199-1	18.80	17.50	Ø0.257	Ø0.257	0.56	NOTE 2
D2199-3	5.80	5.00	Ø0.257	Ø0.257	0.17	NOTE 2
D2199-5	22.64	21.84	Ø0.257	Ø0.316	0.69	NOTE 2
D2199-7	14.74	13.94	Ø0.257	Ø0.257	0.45	NOTE 2
D2199-9	16.52	15.72	Ø0.257	Ø0.257	0.50	NOTE 2
D2199-11	23.60	22.80	Ø0.257	Ø0.316	0.72	NOTE 2
D2199-13	15.96	15.16	Ø0.257	Ø0.257	0.49	NOTE 2
D2199-15	17.57	16.77	Ø0.257	Ø0.257	0.54	NOTE 2
D2199-17	28.05	27.25	Ø0.257	Ø0.316	0.86	NOTE 2
D2199-19	18.90	18.10	Ø0.257	Ø0.257	0.58	NOTE 2
D2199-21	10.80	10.00	Ø0.257	Ø0.257	0.33	NOTE 2
D2199-23	26.18	25.38	Ø0.257	Ø0.316	0.81	NOTE 2
D2199-25	19.13	18.13	Ø0.257	Ø0.257	0.61	NOTE 2
D2199-27	27.34	26.54	Ø0.257	Ø0.316	0.84	NOTE 2
D2199-29	21.11	20.31	Ø0.257	Ø0.257	0.65	NOTE 2
D2199-31	15.55	14.75	Ø0.257	Ø0.257	0.45	NOTE 3

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL ROUND TUBING Ø0.750 X 0.049 WALL PER ASTM A213 OR ASME SA213 OR ASTM A269 REF DART SPEC. M304TR0.750W0.049
- 2) FINISH: POWDER COAT "WHITE" (4.3.5.2) PER DART QSI 005 4.3
- 3) FINISH: POWDER COAT GREY SANTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 7) IDENTIFICATION: IDENTIFY WITH DART P/N "D2199-XX" AND B/N BXXXXXX PER QSI 044, 6.5.
- 8) WEIGHT: PER CHART
- 9) MAKE PER TEMPLATE DT2199-XX WHERE XX IS THE RESPECTIVE DASH NUMBER.

RELEASED

2015 FEB 04

REV 15-522 915-522

148462 SH 7/4/16

F	INCORPORATED E1, REFORMATTED AND REDRAWN, ADDED -31, ADDED GREY SANTEX FINISH.	AJS	14.09.26
E	ADDED -23 AND -25 PER TSR A565M, ADDED TEMPLATE & SPEC CTRL. DWG REDRAWN IN CAD	KE	98.04.28
D	ADDED -21	N/A	N/A
C	ADDED -17 AND -19	N/A	N/A
B	ADDED -11, -13 AND -15	N/A	N/A
A	NEW ISSUE	JB	1993
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D2199	SHEET 1 OF 1
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	STRUT DETAILS	NTS
DATE	14.09.26	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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